

ABSTRACT OF THE DISCLOSURE

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A system and method are described for transporting a heterogeneous mix of traffic having one or more protocol formats and supplied by one or more users or sub-networks in a communication network. Heterogeneous traffic is packaged into digital containers that are routed and processed in network nodes interconnecting the users or sub-networks. A digital container includes a frame structure comprising a header section and a payload section, wherein the header section includes information for routing the digital container and for identifying the type of payload being carried. The payload section is capable of carrying one or more different types of traffic formatted according to one or more protocols, e.g., IP, ATM, etc. As such, traffic supplied by one user node may comprise ATM cells, another may comprise IP packets, and so on. Traffic from each of the user nodes is combined in digital containers at a network node for transport over a core transport network via other network nodes. Because processing and routing of digital containers occurs at the network node level, a digital container is therefore assembled or otherwise formed so that the payload contents only include traffic for user nodes serviced by the same network node. Processing of the individual payload remains a user or sub-network responsibility while the less processor-intensive routing and processing of digital containers occurs at the network node level.